Title (en)

Frequency offset correction in a muliticarrier receiver

Title (de)

Korrektur eines Frequenzversatzes in einem Mehrträgerempfänger

Title (fr)

Correction d'un décalage en fréquence dans un récepteur multiporteuse

Publication

EP 1126673 A3 20040107 (EN)

Application

EP 01102201 A 20010131

Priority

US 50516200 A 20000216

Abstract (en)

[origin: EP1126673A2] An Orthogonal Frequency Division Multiplexing (OFDM) receiver (10) that detects and corrects a carrier frequency offset of a received signal is provided. The OFDM receiver (10) samples an incoming signal in the time domain and correlates (68) the samples with a stored version of a training or reference symbol to generate a correlation sequence. A correlation peak is detected (70) in the correlation sequence and the index of the correlation peak is set as a reference point (72, 74). The OFDM receiver acquires a sample of the incoming signal that is a predetermined distance from the reference point (74). Next, the phase difference between the acquired sample and the local oscillator is computed (74). Afterwards, the frequency of the local oscillator is adjusted to reduce the computed phase difference (76, 80). The acquired sample has a known phase that is equal to the phase of the local oscillator in the absence of a carrier frequency offset. Thus, reducing the phase difference between the predetermined sample and the local oscillator causes the carrier frequency offset to converge towards zero. <IMAGE>

IPC 1-7

H04L 27/26

IPC 8 full level

H04J 11/00 (2006.01); **H04L 27/26** (2006.01); H04L 7/033 (2006.01); H04L 7/04 (2006.01)

CPC (source: EP KR US)

H04J 11/00 (2013.01 - KR); **H04L 27/2657** (2013.01 - EP US); **H04L 27/2675** (2013.01 - EP US); H04L 7/033 (2013.01 - EP US); H04L 7/042 (2013.01 - EP US)

Citation (search report)

- [A] EP 0939528 A2 19990901 - SONY CORP [JP]
- [A] EP 0859494 A2 19980819 - MATSUSHITA ELECTRIC IND CO LTD [JP]
- [A] GB 2324447 A 19981021 - SAMSUNG ELECTRONICS CO LTD [KR]

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DOCDB simple family (publication)

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